## **WEST Search History**

DATE: Friday, November 15, 2002

Set Name side by side	Query	Hit Count	Set Name result set
DB=US	TPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=OR		
L7	(CS3)near2(pilin or pilus)near2(protein\$ or subunit\$)	2	L7
L6	gtvtwah\$	0	L6
L5	gly-thr-val-thr	0	L5
L4	gly-thr-val-thr-trp\$	0	L4
L3	L2 and (CS3)	6	L3
L2	L1 and (enteropath\$ or enterotox\$)	89	L2
L1	reid	21444	L1

END OF SEARCH HISTORY

### WEST

#### **End of Result Set**

Generate Collection Print

L7: Entry 2 of 2

File: USPT

May 23, 1995

DOCUMENT-IDENTIFIER: US 5417986 A

TITLE: Vaccines against diseases caused by enteropathogenic organisms using antigens encapsulated within

biodegradable-biocompatible microspheres

### <u>Drawing Description Text</u> (254):

The CFA/II microsphere vaccine (Lot74F2) is immunogenic giving high titer serum IgG antibody responses as early as 7 days following intra muscular injection in rabbits. This test will be used as potency test for future lots of the CFA/II microsphere vaccine. Slighly higher antibody titers were seen towards the <u>CS3 pilus protein</u> and this may reflect that CS3 accounts for 90% of the protein in the CFA/II and CS1 10% (36).

WEST	
Generate Collection Print	

L7: Entry 1 of 2

File: USPT

Oct 30, 2001

DOCUMENT-IDENTIFIER: US 6309669 B1

TITLE: Therapeutic treatment and prevention of infections with a bioactive materials encapsulated within a biodegradable-biocompatible polymeric matrix

#### Detailed Description Text (186):

117. An immunostimulating composition according to Item 113 wherein the immunogenic substance is the synthetic peptide representing the peptide fragment beginning with the amino acid residue 63 through 78 of Pilus Protein CS3, said residue having the amino acid sequence,

63 (Ser-Lys-Asn-Gly-Thr-Val-Thr-Try-Ala-His-Glu-Thr-Asn-Asn-Ser-Ala).

### <u>Detailed Description Text</u> (202):

133. A method according to Item 114 wherein the immunogenic substance is the synthetic peptide representing the peptide fragment beginning with the amino acid residue 63 through 78 of Pilus Protein CS3 said residue having the amino acid sequence 63 (Ser-Lys-Asn-Gly-Thr-Val-Thr-Try-ala-His-Glu-thr-asn-Asn-Ser-Ala).

# 09/013,077

(FILE 'HOME' ENTERED AT 08:41:30 ON 15 NOV 2002)

2 S SKNGTVTWAHETNNSA/SQSP L1L2 2 S SKNGTVTWAHETNNSA/SQEP

FILE 'CAPLUS' ENTERED AT 08:42:44 ON 15 NOV 2002

2 S L2 L3 L4

2 S L1 0 S L4 NOT L3 L5

```
1998:527193 CAPLUS
ΑN
     129:166193
DN
     Therapeutic treatment and prevention of infections with a bioactive
ΤI
     material encapsulated within a biodegradable-biocompatible polymeric
     Setterstrom, Jean A.; Van Hamont, John E.; Reid, Robert H.; Jacob, Elliot;
IN
     Jeyanthi, Ramasubbu; Boedeker, Edgar C.; McQueen, Charles E.; Tice, Thomas
     R.; Roberts, F. Donald; Friden, Phil
     United States Dept. of the Army, USA; Van Hamont, John E.; et al.
PA
SO
     PCT Int. Appl., 363 pp.
     CODEN: PIXXD2
DT
     Patent
LΑ
     English
FAN.CNT 12
     PATENT NO.
                    KIND DATE
                                           APPLICATION NO.
                                                             DATE
                    ____
                     A1 19980730
PΙ
     WO 9832427
                                          WO 1998-US1556
                                                             19980127
        W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,
             DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ,
             LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL,
             PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US,
             UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
        RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM,
             GA, GN, ML, MR, NE, SN, TD, TG
     US 6309669
                            20011030
                                           US 1997-789734
                                                             19970127
                       В1
                                           AU 1998-63175
    AU 9863175
                       A1
                            19980818
                                                             19980127
PRAI US 1997-789734
                      Α
                            19970127
    US 1984-590308
                      В1
                            19840316
    US 1992-867301
                       A2
                            19920410
    US 1995-446148
                       A2
                            19950522
    US 1995-446149
                       B2
                            19950522
    US 1996-590973
                       B2
                            19960124
    WO 1998-US1556
                       W
                            19980127
              THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 6
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
    ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS
L3
AN
     1996:43038 CAPLUS
DN
     124:84900
ΤI
     Computer modeling for testing immunogenicity of peptides
     Reid, Robert H.; Sadegh-Nasseri, Scheherazade; Wolff, Marcia; Nauss,
IN
     Jeffrey L.
PA
     United States Dept. of the Army, USA
SO
     PCT Int. Appl., 52 pp.
     CODEN: PIXXD2
DT
     Patent
LA
    English
FAN.CNT 1
     PATENT NO.
                     KIND DATE
                                           APPLICATION NO. DATE
                     _---
                                           -----
                                           WO 1994-US5697 19940520
PΙ
    WO 9531997
                            19951130
                     A1
        W: AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP,
             KR, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK,
         RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,
             BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
                          19951218
                                          AU 1994-72429 19940520
    AU 9472429
                      A1
PRAI WO 1994-US5697
                            19940520
```

ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS

L3

# 09/013,077

(FILE 'HOME' ENTERED AT 13:38:48 ON 15 NOV 2002) FILE 'CAPLUS' ENTERED AT 13:39:00 ON 15 NOV 2002 FILE 'CAPLUS, EMBASE, BIOSIS, MEDLINE, WPIDS' ENTERED AT 13:39:13 ON 15 NOV 2002 L154 S (NAUSS, J? OR NAUSS J?)/AU, IN 4069 S (REID, R? OR REID R?)/AU,IN L2 L3 4968 S (WOLF, M? OR WOLF M?)/AU,IN 99 S (SADEGH-NASSERI, S? OR SADEGH-NASSERI S?)/AU,IN L49163 S L1 OR L2 OR L3 OR L4 L551 S L5 AND (PILUS OR PILI OR PILLUS OR PILLI) L6 0 S L6 AND (62 OR 63 OR 64) L7 $r_8$ 21 S L5 AND (PILUS OR PILI OR PILLUS OR PILLI) (3A) (PROTEIN? OR SU L9 16 DUP REM L8 (5 DUPLICATES REMOVED) FILE 'STNGUIDE' ENTERED AT 13:44:35 ON 15 NOV 2002 FILE 'CAPLUS, EMBASE, BIOSIS, MEDLINE, WPIDS' ENTERED AT 13:45:13 ON 15 NOV 2002 FILE 'STNGUIDE' ENTERED AT 13:45:45 ON 15 NOV 2002 FILE 'CAPLUS, EMBASE, BIOSIS, MEDLINE, WPIDS' ENTERED AT 13:47:18 ON 15 NOV 2002 FILE 'STNGUIDE' ENTERED AT 13:47:41 ON 15 NOV 2002 FILE 'CAPLUS, EMBASE, BIOSIS, MEDLINE, WPIDS' ENTERED AT 13:48:49 ON 15 NOV 2002 FILE 'STNGUIDE' ENTERED AT 13:49:33 ON 15 NOV 2002 FILE 'CAPLUS, EMBASE, BIOSIS, MEDLINE, WPIDS' ENTERED AT 13:51:05 ON 15 NOV 2002 FILE 'STNGUIDE' ENTERED AT 13:53:08 ON 15 NOV 2002 FILE 'CAPLUS, EMBASE, BIOSIS, MEDLINE, WPIDS' ENTERED AT 13:53:27 ON 15 NOV 2002 L10 31 S (PILI) (2A) (PROTEIN?) (5A) (SEQUENC?) L11 17 DUP REM L10 (14 DUPLICATES REMOVED) L12 0 S (PILI) (2A) (PROTEIN?) (5A) (63-78) L13 8 S (PILI) (2A) (PROTEIN?) (5A) (PEPTIDE OR AMINO ACID?) (5A) (SEQUENC? L143 DUP REM L13 (5 DUPLICATES REMOVED) L15 2453 S (ENTEROTOXIGEN?) (2A) (E. COLI) L16 2565 S ETEC L17 4395 S L15 OR L16 L18353 S L17 AND (CS3 OR PILUS) L19 73 S L18 AND SEQUENCE? 76 S L18 AND SEQUENC? L20 39 DUP REM L20 (37 DUPLICATES REMOVED) L21 L22 132 S (CS3)/TI

FILE 'STNGUIDE' ENTERED AT 14:07:38 ON 15 NOV 2002

6 S L21 AND L22

2 S L17 AND L24

282 S L17 AND 24

31 S (CS3) (3A) (SEQUENC?)

L23

L24

L25

L26

FILE 'CAPLUS, EMBASE, BIOSIS, MEDLINE, WPIDS' ENTERED AT 14:08:08 ON 15

NOV 2002

FILE 'REGISTRY' ENTERED AT 14:09:06 ON 15 NOV 2002 L27 2 S TVTWAHETNN/SQSP

FILE 'CAPLUS' ENTERED AT 14:09:47 ON 15 NOV 2002 L28 2 S L27

TI Analysis of Escherichia coli colonization factor antigen I linear B-cell epitopes, as determined by primate responses, following protein sequence verification

AU Cassels, Frederick J.; Deal, Carolyn D.; Reid, Robert H.; Jarboe, Daniel L.; Nauss, Jeffrey L.; Carter, John M.; Boedeker, Edgar C.

CS Dep. Gastroenterol., Walter Reed Army Inst. Res., Washington, DC, 20307, USA

SO Infection and Immunity (1992), 60(6), 2174-81 CODEN: INFIBR; ISSN: 0019-9567

DT Journal

LA English

CC 15-2 (Immunochemistry)
Section cross-reference(s): 3, 10

AB Colonization factor antigen I (CFA/I)-bearing strains of enterotoxigenic E. coli (ETEC) are responsible for a significant percentage of ETEC diarrheal disease worldwide whether the disease presents as infant diarrhea with high mortality or as traveler's diarrhea. CFA/I pili (fimbriae) are virulence determinants that consist of repeating protein subunits (pilin), are found in several ETEC serogroups, and promote attachment to human intestinal mucosa. While CFA/I pili are highly immunogenic, the antigenic determinants of CFA/I have not been defined. The linear B-cell epitopes within the CFA/I mol. were identified as detd. by primate response to the immunizing protein. To do this, the authors (i) resolved the discrepancies in the literature on the complete amino acid sequence of CFA/I by N-terminal and internal protein sequencing of purified and selected proteolytic fragments of CFA/I, (ii) utilized this sequence to synthesize 140 overlapping octapeptides covalently attached to polyethylene pins which represented the entire CFA/I protein, (iii) immunized rhesus monkeys with multiple i.m. injections of purified CFA/I subunit in Freund's adjuvant, and (iv) tested serum from each monkey for its ability to recognize the octapeptides in a capture ELISA. Eight linear B-cell epitopes were identified; the region contg. an epitope at amino acids 1121 was strongly recognized by all 3 individual rhesus monkeys, while the amino acid stretches 22-29, 66-74, 93-101, and 124-136 each contained an epitope that was recognized by 2 of the 3 rhesus monkeys. The 3 other regions contg. epitopes were recognized by 1 of the 3 individuals. The monkey antiserum to pilus subunits recognized native intact pili by immunogold labeling of CFA/I pili present on whole H10407 cells. Therefore, immunization with pilus subunits induces antibody that clearly recognizes both synthetic linear epitopes and intact pili. The importance of these defined epitope-contg. regions as vaccine candidates is discussed. ST colonization factor I B cell epitope; sequence colonization factor antigen I Escherichia

IT Vaccines

(for enterotoxigenic Escherichia coli, colonization factor antigen I epitopes in relation to)

IT Protein sequences

(of colonization factor antigen I, of Escherichia coli)

IT Lymphocyte

(B-cell, Escherichia coli colonization factor antigen I epitopes for)

IT Pilins

RL: PRP (Properties)

(CFA/I (colonization factor antigen I), B-cell epitopes and amino acid sequence of, of enterotoxigenic Escherichia coli)

IT Molecular structure-biological activity relationship (antigenic, for colonization factor antigen I of Escherichia coli)

```
L9 ANSWER 6 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 2
```

AN 1993:154539 CAPLUS

DN 118:154539

TI Oral-intestinal vaccines against diseases caused by enteropathogenic organisms using antigens encapsulated within biodegradable-biocompatible microspheres

IN Reid, Robert H.; Jarboe, Daniel; Cassels, Frederick J.; Boedeker, Edgar C.; Setterstrom, Jean A.

PA United States Dept. of the Army, USA

SO PCT Int. Appl., 118 pp. CODEN: PIXXD2

Patent

LA English

FAN.CNT 12

DT

L MIN.	~1N T	12														
PATENT NO.			KIND DATE			APPLICATION NO.				ο.	DATE					
							1000								1001	
PΙ	PI WO 9219263		A1 19921112			WO 1991-US3328				8	19910513					
		W: A	ΑU,	CA,	FI,	JP,	NL,	NO								
		RW: A	AΤ,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR,	IT,	LU,	NL,	SE	
	AU	918303	183036 A1		L	19921221			AU 1991-83036				19910513			
PRAI	RAI US 1991-690485		185	A 19910424												
	WO	1991-U	JS33	328	Α		1991	0513								

#### => d 6 ab

L9 ANSWER 6 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 2

AB An oral-intestinal vaccine against infections by enteropathogenic bacteria comprises DL-lactide-glycolide copolymer-encapsulated AF/R1 pilus of Escherichia coli RDEC-1 attachment, or similarly-encapsulated antigenic synthetic peptides contg. (FA/I (colonization factor antigen I) pilus protein T-cell or B-cell epitopes. Intraduodenal vaccination with the DL-lactide-glycolide copolymer-encapsulated AF/R1 pilus protected habits against diarrhea caused by E. coli RDEC-1.

```
L26 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS
    1989:491322 CAPLUS
AN
     111:91322
DN
    Nucleotide sequence of the gene encoding the major subunit of CS3 fimbriae
ΤI
     of enterotoxigenic Escherichia coli
     Boylan, Maire; Smyth, Cyril J.; Scott, June R.
ΑU
     Sch. Med., Emory Univ., Atlanta, GA, 30322, USA
CS
     Infection and Immunity (1988), 56(12), 3297-300
SO
     CODEN: INFIBR; ISSN: 0019-9567
DT
     Journal
    English
LA
CC
     3-2 (Biochemical Genetics)
AΒ
    The complete nucleotide sequence of a 612-base-pair DNA fragment contg.
     the gene for the major fimbrial subunit of CS3 of enterotoxiqenic
    E. coli is presented. A possible promoter region, a
     ribosome-binding site, and 2 potential signal peptidase cleavage sites are
     indicated. Unlike the best-studied fimbrial proteins, the predicted
    CS3 sequence has no Cys residues.
ST
     Escherichia pilin CS3 gene sequence
     Gene and Genetic element, microbial
ΙT
     RL: BIOL (Biological study)
        (for pilin CS3 subunit, of Escherichia coli, nucleotide and encoded
        peptide sequences of)
ΙT
     Protein sequences
        (of pilin CS3 subunit and precursor, of Escherichia coli,
        complete)
ΙT
     Escherichia coli
        (pilin CS3 subunit of, gene for, nucleotide and encoded peptide
        sequences of)
ΙT
     Pilins
     RL: BIOL (Biological study)
        (CS3 (Escherichia coli surface 3) antigens, gene for subunit of,
        nucleotide and encoded peptide sequences of)
IT
     Deoxyribonucleic acid sequences
        (antigen CS3 (Escherichia coli surface 3)-specifying,
        subunit, of Escherichia coli, complete)
IT
     122319-49-7, Pilin (plasmid pCS001 clone pCS119 CS3 fimbriae)
     122319-50-0, Pilin (plasmid pCS001 clone pCS119 CS3 fimbriae precursor)
    RL: PRP (Properties)
        (amino acid sequence of)
     122319-15-7, Deoxyribonucleic acid (plasmid pCS001 clone pCS119 CS3
IT
     fimbriae pilin gene)
     RL: PRP (Properties); BIOL (Biological study)
        (nucleotide sequence of)
```

- ANSWER 9 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. L9
- 1992:39981 BIOSIS ΑN
- BR42:16131 DN
- AF-R1 PILUS PROTEIN REMAINS IMMUNOGENIC TO RABBIT ΤI SPLEEN CELLS IMMUNIZED IN-VITRO AFTER MICROENCAPSULATION.
- SAU K; REID R H; DAVIS D; BOEDEKER E C; NELLORE R; BHAGAT H R WALTER REED ARMY INST. RES., WASHINGTON, D.C. 20307. ΑU
- CS
- AAPS (AMERICAN ASSOCIATION OF PHARMACEUTICAL SCIENTISTS) SIXTH ANNUAL SO MEETING AND EXPOSITION, WASHINGTON, D.C., USA, NOVEMBER 17-21, 1991. PHARM RES (N Y). (1991) 8 (10 SUPPL ), S164. CODEN: PHREEB. ISSN: 0724-8741.
- DTConference
- BR; OLD FS
- LΑ English
- CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520 Cytology and Cytochemistry - Animal 02506 Biochemical Studies - Proteins, Peptides and Amino Acids 10064 Blood, Blood-Forming Organs and Body Fluids - Lymphatic Tissue and Reticuloendothelial System \*15008 Pharmacology - General \*22002 Pharmacology - Immunological Processes and Allergy \*22018 In Vitro Studies, Cellular and Subcellular 32600 Immunology and Immunochemistry - Immunopathology, Tissue Immunology \*34508
- BC Leporidae 86040
- Miscellaneous Descriptors IΤ ABSTRACT

- L9 ANSWER 10 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
- AN 1991:381461 BIOSIS
- DN BR41:53851
- TI AF-R1 PILUS PROTEIN REMAINS IMMUNOGENIC TO RABBIT PEYER'S PATCH CELLS IMMUNIZED IN-VITRO AFTER MICROENCAPSULATION.
- AU DAVIS D; REID R H; SAU K
- CS WALTER REED ARMY INST. RES., WASHINGTON, D.C. 20307.
- 91ST GENERAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY 1991, DALLAS, TEXAS, USA, MAY 5-9, 1991. ABSTR GEN MEET AM SOC MICROBIOL. (1991) 91 (0), 132. CODEN: AGMME8.
- DT Conference
- FS BR; OLD
- LA English
- CC General Biology Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
  Biochemical Studies Proteins, Peptides and Amino Acids 10064
  Metabolism Proteins, Peptides and Amino Acids \*13012
  Digestive System Physiology and Biochemistry \*14004
  Blood, Blood-Forming Organs and Body Fluids Blood and Lymph Studies
  - Blood, Blood-Forming Organs and Body Fluids Blood and Lymph Studies \*15002

Morphology and Cytology of Bacteria \*30500
Physiology and Biochemistry of Bacteria \*31000
In Vitro Studies, Cellular and Subcellular 32600
Immunology and Immunochemistry - Bacterial, Viral and Fungal \*34504

Immunology and Immunochemistry - Bacterial, Viral and Fungal \*34504 Medical and Clinical Microbiology - Bacteriology \*36002

BC Bacteria - Unspecified 04000 Leporidae 86040

IT Miscellaneous Descriptors

ABSTRACT IMMUNOGLOBULIN M RESPONSE BACTERIAL INFECTION

```
1993:313052 BIOSIS
AN
     PREV199345019577
DN
     Binding interactions of peptides in a structural
ΤI
     homology model of the DR1 class II MHC.
     Nauss, Jeffrey L.; Reid, Robert H.; Sadegh-Nasseri, Scheherazade
ΑU
     Dep. Gastroenterol., Walter Reed Army Inst. Res., Washington, DC 20307
CS
     Journal of Immunology, (1993) Vol. 150, No. 8 PART 2, pp. 41A.
SO
     Meeting Info.: Joint Meeting of the American Association of Immunologists
     and the Clinical Immunology Society Denver, Colorado, USA May 21-25, 1993
     ISSN: 0022-1767.
DT
     Conference
     English
LΑ
CC
     General Biology - Symposia, Transactions and Proceedings of Conferences,
     Congresses, Review Annuals
                                   00520
     Cytology and Cytochemistry - Human
                                           02508
     Biochemical Studies - Proteins, Peptides and Amino Acids *10064
     Biophysics - Molecular Properties and Macromolecules *10506
     Blood, Blood-Forming Organs and Body Fluids - Lymphatic Tissue and
     Reticuloendothelial System *15008
     Morphology and Cytology of Bacteria
     Physiology and Biochemistry of Bacteria *31000
Virology - Animal Host Viruses *33506
     Immunology and Immunochemistry - Bacterial, Viral and Fungal *34504
     Immunology and Immunochemistry - Immunopathology, Tissue Immunology
     *34508
     Medical and Clinical Microbiology - Bacteriology
     Medical and Clinical Microbiology - Virology *36006
BC
     Orthomyxoviridae
                         02615
     Enterobacteriaceae
                           06702
     Hominidae *86215
ΙT
     Major Concepts
        Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport
        and Circulation); Clinical Immunology (Human Medicine, Medical
        Sciences); Immune System (Chemical Coordination and Homeostasis);
        Microbiology; Physiology
IT
     Miscellaneous Descriptors
        ABSTRACT; HLA; INFLUENZA VIRUS HEMAGGLUTININ PEPTIDE; MAJOR
        HISTOCOMPATIBILITY COMPLEX; PILUS PROTEIN
ORGN Super Taxa
        Enterobacteriaceae: Eubacteria, Bacteria; Hominidae: Primates,
        Mammalia, Vertebrata, Chordata, Animalia; Orthomyxoviridae: Viruses
ORGN Organism Name
        Escherichia coli (Enterobacteriaceae); Hominidae (Hominidae);
        Orthomyxoviridae (Orthomyxoviridae)
ORGN Organism Superterms
        animals; bacteria; chordates; eubacteria; humans; mammals;
        microorganisms; primates; vertebrates; viruses
```

ANSWER 1 OF 1 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

L6

